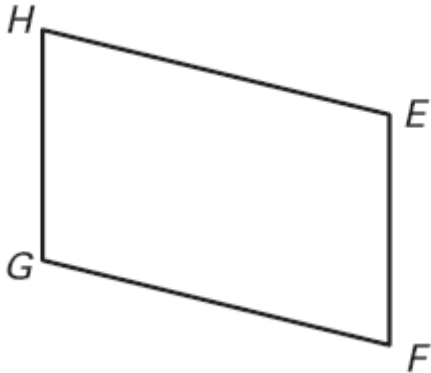


Geometry Date_____ 2.5 Assignment
Proving Statements about Segments (pp 102-103)

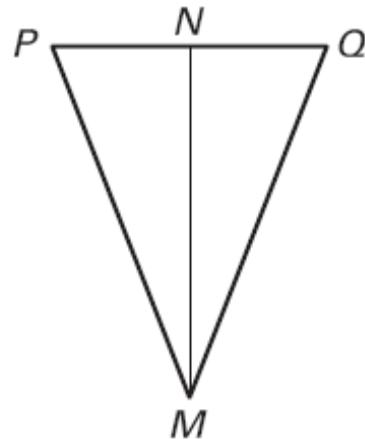
1. What is your name?

Mark the diagram with the given information.

2. $GH = 4, EF = 4$
 $HE = 6, GF = 6$



3. N is the midpoint of PQ.

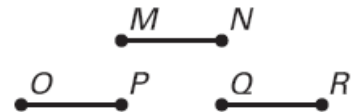


Complete the argument, giving a reason for each step.

4. Given: $OP = MN, MN = QR$

Prove: $\overline{OP} \cong \overline{QR}$

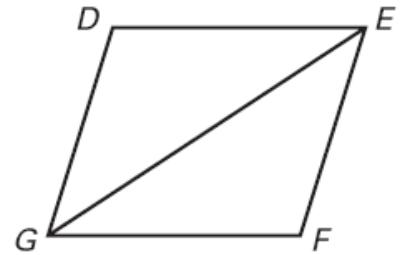
Statement	Reason
$OP = MN, MN = QR$	
$OP = QR$	
$\overline{OP} \cong \overline{QR}$	



Geometry **Date** _____ **2.5 Assignment**
Proving Statements about Segments (pp 102-103)

5. Given: $DG = 8$, $GF = 8$, $\overline{GF} \cong \overline{EF}$

Prove: $\overline{DG} \cong \overline{EF}$



Statement	Reason
$DG = 8$, $GF = 8$	
$DG = GF$	
$\overline{DG} \cong \overline{GF}$	
$\overline{GF} \cong \overline{EF}$	
$\overline{DG} \cong \overline{EF}$	

6. Given: $\overline{FR} \cong \overline{AN}$

Prove: $\overline{FA} \cong \overline{RN}$



Statement	Reason
$\overline{FR} \cong \overline{AN}$	
$FR = AN$	
$RA = RA$	
$FR + RA = AN + RA$	
$FR + RA = FA$	
$AN + RA = RN$	
$FA = RN$	
$\overline{FA} \cong \overline{RN}$	



Geometry **Date**_____ **2.5 Assignment**
Proving Statements about Segments (pp 102-103)

7. Write a paragraph proof.

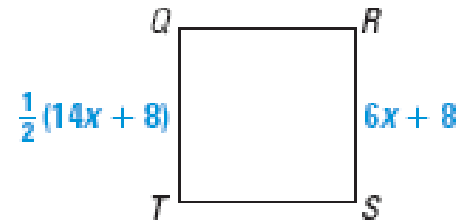
Given: T is the midpoint of \overline{AM} .

Proof: $AT = \frac{1}{2}AM$



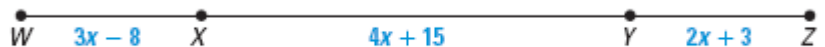
8. _____ In QRST, $\overline{QT} \cong \overline{TS}$ & $\overline{RS} \cong \overline{TS}$. What is the value of x?

- A. 1
- B. 4
- C. 12
- D. 16
- E. 32



9. _____ In the figure, $\overline{WX} \cong \overline{YZ}$. What is XZ?

- A. 25
- B. 34
- C. 59
- D. 60
- E. 84



Review.

10. Find a counterexample that shows the statement is false: For every number, n, $2^n > n + 1$. (Chapter 1 Section 1)

Geometry **Date**_____ **2.5 Assignment**
Proving Statements about Segments (pp 102-103)

Find a counterexample that shows the statement is false. *(Chapter 1 Section 1)*

11. The sum of an even number and an odd number is always even.

12. If a number is divisible by 5, then it is divisible by 10.

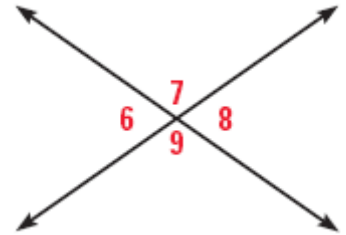
Use the diagram to find the angle measure. *(Chapter 1 Section 6)*

13. If $m\angle 6 = 64^\circ$, find $m\angle 7$.

14. $m\angle 8 = 70^\circ$, then find $m\angle 6$.

15. If $m\angle 9 = 115^\circ$, then find $m\angle 8$.

16. If $m\angle 7 = 108^\circ$, then find $m\angle 8$.



17. Write the contrapositive of the conditional statement, “If Matthew wins this wrestling match, then he will win first place.” *(Chapter 2 Section 1)*

18. Is the converse of a true conditional statement always true? Explain.
(Chapter 2 Section 1)

Let p be “the car is in the garage” and let q be “Mark is home.” Write the statement in words and symbols. *(Chapter 2 Section 3)*

19. The conditional statement $p \rightarrow q$.

20. The converse of $p \rightarrow q$.

21. The inverse of $p \rightarrow q$.

21. The contrapositive of $p \rightarrow q$.